

Name \_\_\_\_\_ Date \_\_\_\_\_ Core \_\_\_\_\_

### **“The Translating Detective”**

#### **Case 2**

1. **Graph, label and connect** the following ordered pairs (points):

M = (2,1)

N = (5,1)

O = (5,3)

P = (2,3)

2. What geometric figure do you see?
3. What quadrant is the figure in?
4. Translate your figure 6 units to the left and 3 units up.
5. Document and label your new points.

M' = (   ,   )

N' = (   ,   )

O' = (   ,   )

P' = (   ,   )

### **Good investigation work! Now answer a few questions about your case!**

6. What quadrant is this *new* geometric shape in?
7. Compare your old points with your new points. Describe the changes that occurred in the x values and the changes that occurred in the y values. (Give me one or two complete sentences to describe your findings)
8. Now take your descriptive words from number 7 and put them in mathematical terms. Document the rule used to transform figure 1 to figure 2.  
( x +/- \_\_\_\_\_ , y +/- \_\_\_\_\_ )

### **Let's Create!!**

9. Create your very own rule to transform (move) the original polygon into quadrant IV. Graph the new position of the rectangle and write the rule below.  
(x +/- \_\_\_\_\_ , y +/- \_\_\_\_\_ )